

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1. (Currently amended): A video overlay apparatus comprising:

- a video scaler operatively responsive to input video data; and
- a programmable switching mechanism, operatively coupled to the video scaler, to programmably switch video data from the video scaler into one of at least first and second video overlay generators that are each capable of being operably coupled to at least corresponding first and second display devices, in order to enable the display of said video data from said video scaler and overlay data from one of said first and second overlay generators on one of a at least a first output display device and a second display device.

Claim 2. (Original) The video overlay device of claim 1 wherein the programmable switching mechanism includes a programmable register.

Claim 3. (Original) The video overlay device of claim 1 including:

- a first display engine responsive to first graphics data for generating first video window timing data,
- a second display engine responsive to second graphics data for generating second video window timing data,
- a first video overlay generator operatively responsive to first graphics data; and
- a second video overlay generator operatively responsive to the second graphics data.

Claim 4. (Previously amended) The video overlay device of claim 3 wherein each of the first and second video overlay generators includes:

- a graphics data unpacker operative to unpack graphics data received from a respective display engine;

a keyer operatively coupled to the graphics data unpacker and responsive to the selectively routed video data from the programmable switching mechanism; and

a data packer operatively coupled to the keyer to pack combined video and graphics data from the keyer.

Claim 5. (Original) The video overlay device of claim 1 wherein the programmable switching mechanism includes a selectable video clock source operatively coupled to the video scaler wherein the video scaler scales input video corresponding to a display engine for at least one of the plurality of video overlay generators in response to a video clock signal output from the selectable video clock source.

Claim 6. (Original) The video overlay device of claim 3 wherein the programmable switching mechanism further facilitates programming of frame buffer space for each display engine based on which video overlay generator has been selected to receive input video.

Claim 7. (Original) The video overlay device of claim 5 wherein the selectable video clock source includes a programmable switch to facilitate switching between a plurality of display dependent clock signals that are selectively coupled to a common video scaler line buffer.

Claim 8. (Original) The video overlay device of claim 1 including a user interface operable to control the programmable switching mechanism to facilitate selective overlay display on a per application basis.

Claim 9. (Currently amended) A video overlay apparatus comprising:

- a video scaler operatively responsive to input video data;
- a first display engine responsive to first graphics data for generating first video window timing data,
- a second display engine responsive to second graphics data for generating second video window timing data,
- a first video overlay generator operatively responsive to first graphics data;
- a second video overlay generator operatively responsive to the second graphics data; and

a programmable switch, operatively coupled to the video scaler and to at least said first video overlay generator and said second video overlay generator, to programmably switch video data from the video scaler to at least one of: said first video overlay generator and said second video overlay generator in order to enable the selective display of video data from said video scaler and overlay data on each one of: [[a]] at least a first display device and a second display device, wherein each of the video overlay generators outputs overlay information for a corresponding display device and wherein the programmable switching mechanism includes a selectable video clock source operatively coupled to the video scaler wherein the video scaler scales input video corresponding to a display engine for at least one of the plurality of video overlay generators in response to a video clock signal output from the selectable video clock source.

Claim 10. (Original) The video overlay device of claim 9 wherein the programmable switching mechanism includes a programmable register.

Claim 11. (Original) The video overlay device of claim 9 wherein each of the first and second video overlay generators includes:

- a graphics data unpacker operative to unpack graphics data received from a respective display engine;

- a keyer operatively coupled to the graphics data unpacker and responsive to the selectively route video data from the programmable switching mechanism; and

- a data packer operatively coupled to the keyer to pack combined video and graphics data from the keyer.

Claim 12. (Original) The video overlay device of claim 11 wherein the programmable switching mechanism further facilitates programming of frame buffer space for each display engine based on which video overlay generator has been selected to receive input video.

Claim 13. (Original) The video overlay device of claim 9 wherein the selectable video clock source includes a programmable switch to facilitate switching between a plurality of display dependent clock signals.

Claim 14. (Previously amended) The video overlay device of claim 9 including a user interface operable to control the programmable switching mechanism to facilitate selective overlay display on a per application basis.

Claim 15. (Currently amended) A video overlay method comprising the steps of:

scaling input video through a common video scaler for delivery to one of a plurality of video overlay generators, each of said video overlay generators having an output for coupling video and video overly data into each of a plurality of [[corresponding]] display [[device]] devices; and

selectively switching video data from the common video scaler to one of the plurality of video overlay generators to facilitate selective display of overlay data and video on each one of a plurality of display [[device]] devices coupled to an output of a video overlay generator such that each of the video overlay generators outputs overlay information to each one of a plurality of [[corresponding]] display [[device]] devices.

Claim 16. (Original) The video overlay method of claim 15 including controlling the selective routing of video data using a programmable switching mechanism that includes a programmable register.

Claim 17. (Original) The video overlay method of claim 15 including:

providing first video window timing data from a first display engine responsive to first graphics data,

providing second video window timing data from a second display engine responsive to second graphics data,

generating a first video overlay based on first graphics data and at least a portion of selectively routed input video data; and

generating a second video overlay based on second graphics data and at least a portion of selectively routed input video data.

Claim 18. (Original) The video overlay method of claim 17 including:

unpacking graphics data received from a respective display engine;

keying video and graphics data from a respective display engine and the selectively routed video data selectively routed by a programmable switching mechanism; and
packing combined video and graphics data for each respective video graphic overlay generator for alternate output to the display.

Claim 19. (Original) The video overlay method of claim 18 wherein the programmable switching mechanism includes a selectable video clock source operatively coupled to the video scaler wherein the video scaler scales input video corresponding to a display engine for at least one of the plurality of video overlay generators in response to a video clock signal output from the selectable video clock source.

Claim 20. (Original) The video overlay method of claim 15 including the step of programming of frame buffer space for each display engine based on which video overlay generator has been selected to receive input video.

Claim 21. (Original) The video overlay method of claim 19 wherein the selectable video clock source includes a programmable switch to facilitate switching between a plurality of display dependent clock signals.

Claim 22. (Original) The video overlay method of claim 15 including providing a user interface operable to control a programmable switching mechanism to facilitate selective overlay display on a per application basis.